ANSWER PRESENTATION TOOL

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1. $\underbrace{\text{The product of a number } m \text{ and } 2}_{2m}$ is   8.
$\qquad\qquad\qquad\qquad\qquad\qquad\qquad\quad \downarrow \quad \downarrow$
$\qquad\qquad\qquad\qquad\qquad\qquad\qquad\quad = \quad 8$

An equation is $2m = 8$.

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2. $\underbrace{\text{6 less than a number } t}_{t-6}$ is   7.
$\qquad\qquad\qquad\qquad\qquad\quad \downarrow \quad \downarrow$
$\qquad\qquad\qquad\qquad\qquad\quad = \quad 7$

An equation is $t - 6 = 7$.

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3. $\underbrace{\text{A number } m \text{ increased by 5}}_{m+5}$ is   7.
$\qquad\qquad\qquad\qquad\qquad\qquad \downarrow \quad \downarrow$
$\qquad\qquad\qquad\qquad\qquad\qquad = \quad 7$

An equation is $m + 5 = 7$.

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4. 8   is $\underbrace{\text{the quotient of a number } g \text{ and 3.}}_{g \div 3}$
$\;\downarrow \;\; \downarrow$
$\;8 \;\; =$

An equation is $8 = g \div 3$.

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5. $x - 1 = 8$

$\underline{+\,1 +\,1}$

$x = 9$

The solution is $x = 9$.

Check: $x - 1 = 8$

$9 - 1 \overset{?}{=} 8$

$8 = 8$ ✓

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6. $m + 7 = 11$

$\underline{-\,7 -\,7}$

$m = 4$

The solution is $m = 4$.

Check: $m + 7 = 11$

$4 + 7 \overset{?}{=} 11$

$11 = 11$ ✓

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7. $21 = p - 12$

$\underline{+\,12 +\,12}$

$33 = p$

The solution is $p = 33$.

Check: $21 = p - 12$

$21 \overset{?}{=} 33 - 12$

$21 = 21$ ✓

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8. $7 \bullet q = 42$

$\dfrac{7 \bullet q}{7} = \dfrac{42}{7}$

$q = 6$

The solution is $q = 6$.

Check: $7 \bullet q = 42$

$7 \bullet 6 \overset{?}{=} 42$

$42 = 42$ ✓

9. $7k \div 3 = 21$ **Check:** $7k \div 3 = 21$

$$\frac{7k}{3} = 21$$

$$\frac{7}{3}k = 21$$

$$\frac{3}{7} \bullet \frac{7}{3}k = \frac{3}{7} \bullet 21$$

$$k = 9$$

The solution is $k = 9$.

Check:

$$7(9) \div 3 \overset{?}{=} 21$$

$$63 \div 3 \overset{?}{=} 21$$

$$21 = 21 \checkmark$$

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10. $\dfrac{5a}{7} = 25$ **Check:** $\dfrac{5a}{7} = 25$

$$\frac{5}{7}a = 25$$

$$\frac{7}{5} \bullet \frac{5}{7}a = \frac{7}{5} \bullet 25$$

$$a = 35$$

The solution is $a = 35$.

Check:

$$\frac{5(35)}{7} \overset{?}{=} 25$$

$$\frac{175}{7} \overset{?}{=} 25$$

$$25 = 25 \checkmark$$

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11. $y = 3x + 1;\ (2, 7)$

$$7 \overset{?}{=} 3(2) + 1$$

$$7 = 7 \checkmark$$

So, $(2, 7)$ is a solution.

12. $y = 7x - 4;\ (4, 22)$

$22 \overset{?}{=} 7(4) - 4$

$22 \neq 24$ ✗

So, $(4, 22)$ is *not* a solution.

**13.** Words: Total equals cost of plus cost
cost the taxi per mile
ride

times number
of miles

Variables: Let c be the total cost of a taxi ride, and let m be the number of miles.

Equation: $c = 3 + 2.5 \cdot m$

Number of Miles, m	$c = 3 + 2.5m$	Total Cost, c	Ordered Pair, (m, c)
1	$c = 3 + 2.5(1)$	5.5	$(1, 5.5)$
2	$c = 3 + 2.5(2)$	8	$(2, 8)$
3	$c = 3 + 2.5(3)$	10.5	$(3, 10.5)$
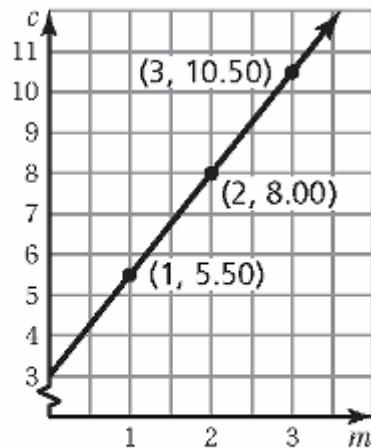
14. $\underbrace{\text{A number } m}$ $\underbrace{\text{is less than}}$ 5.

$m \qquad\qquad < \qquad 5$

An inequality is $m < 5$.

15. $\underbrace{\text{A number } h}$ $\underbrace{\text{is at least}}$ -12.

$h \qquad\qquad \geq \qquad -12$

An inequality is $h \geq -12$.

16. $x < 0$

17. $a \geq 3$

18. $n \leq -1$

19. $x + 1 > 3$

$\underline{-1 \quad\quad -1}$

$x > 2$

The solution is $x > 2$.

20. $k - 7 \le 0$

$\underline{+7 \quad\quad +7}$

$k \le 7$
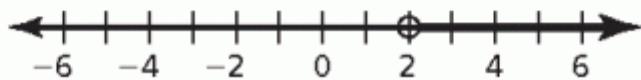
The solution is $k \le 7$.

21. $y + 8 \ge 9$

$\underline{-8 \quad\quad -8}$

$y \ge 1$

The solution is $y \ge 1$.

22. $24 < 11 + x$

$\underline{-11 \qquad -11}$

$13 < x$
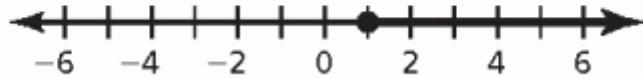
The solution is $x > 13$.

13

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←+—+—+—+—+—+—+—○+—+—+→
 −4    0    4    8   12   16   20
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23. $4 \le n - 4$

$\underline{+4 \qquad +4}$

$8 \le n$

The solution is $n \ge 8$.

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←+—+—+—+—+—●—+—+—+—+→
 −4    0    4    8   12   16   20
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24. $x - 20 > 24$

$\underline{+20 \qquad +20}$

$x > 44$

The solution is $x > 44$.

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←+—+—+—+—⊕—+—+—+—+→
 −22   0   22   44   66   88  110
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25. $b + 12 \leq 26$

$\underline{-12 \qquad -12}$
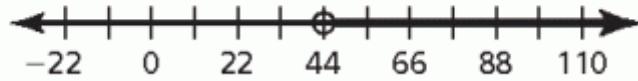
$b \leq 14$

The solution is $b \leq 14$.

26. $s - 1.5 < 2.5$

$\underline{+1.5 \qquad +1.5}$

$s < 4$

The solution is $s < 4$.

27. $\dfrac{1}{4} + m \leq \dfrac{1}{2}$

$\dfrac{1}{4} + m \leq \dfrac{2}{4}$

$\underline{-\dfrac{1}{4} \qquad\qquad -\dfrac{1}{4}}$

$m \leq \dfrac{1}{4}$
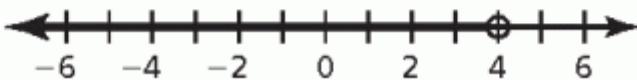
The solution is $m \leq \dfrac{1}{4}$.
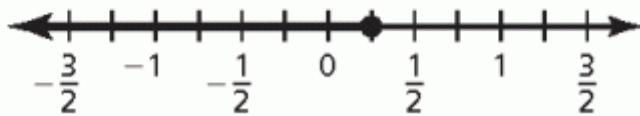
28.

$$x \div 2 < 4$$

$$(x \div 2) \bullet 2 < 4 \bullet 2$$

$$x < 8$$

The solution is $x < 8$.

29. $9n \geq 63$

$$\frac{9n}{9} \geq \frac{63}{9}$$

$$n \geq 7$$

The solution is $n \geq 7$.
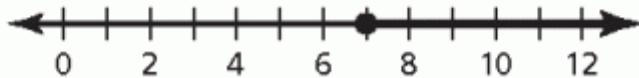
30.

$$\frac{5x}{3} \leq 10$$

$$\frac{5}{3}x \leq 10$$

$$\frac{3}{5} \bullet \frac{5}{3}x \leq \frac{3}{5} \bullet 10$$

$$x \leq 6$$

The solution is $x \leq 6$.
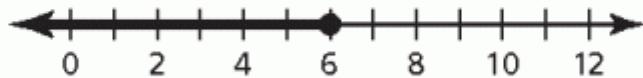
31. $9 \geq 3b$

$$\frac{9}{3} \geq \frac{3b}{3}$$

$$3 \geq b$$

The solution is $b \leq 3$.
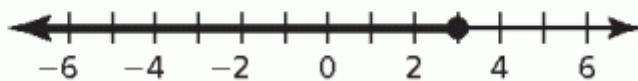
32. $10p > 40$

$$\frac{10p}{10} > \frac{40}{10}$$

$$p > 4$$

The solution is $p > 4$.

33. $\frac{3}{11}k < 15$

$$\frac{11}{3} \bullet \frac{3}{11}k < \frac{11}{3} \bullet 15$$

$$k < 55$$

The solution is $k < 55$.

34. Words:

Number of tickets	times	the cost of a ticket	is at least	$20.

Variable: Let c be the cost of a ticket.

Inequality: 3 $\bullet$ c $\geq$ 20

$3c \geq 20$

$$\frac{3c}{3} \geq \frac{20}{3}$$

$c \geq 6.67$

The cost of a ticket will be at least $6.67.